

Nosocomial Infection Control

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NIC Problem

- Throughout hospitals in the US, 2 million people acquire infections not related to their condition. These nosocomial infections are often caused by poor hand washing practices. In fact, hand washing compliance rates are typically as low as 15-35% as inconvenient sink locations and forgetfulness create barriers to proper hand washing behavior.

Research Questions

- What are the differences between hand washing and alcohol-based rubs?
- Has there been research as to how patient or visitor hand washing affects infection rates?
- How would wide-spread adoption of glove use affect infection rates?
- How successful are dedicated infection control teams at enforcing procedures?

Key Evidence

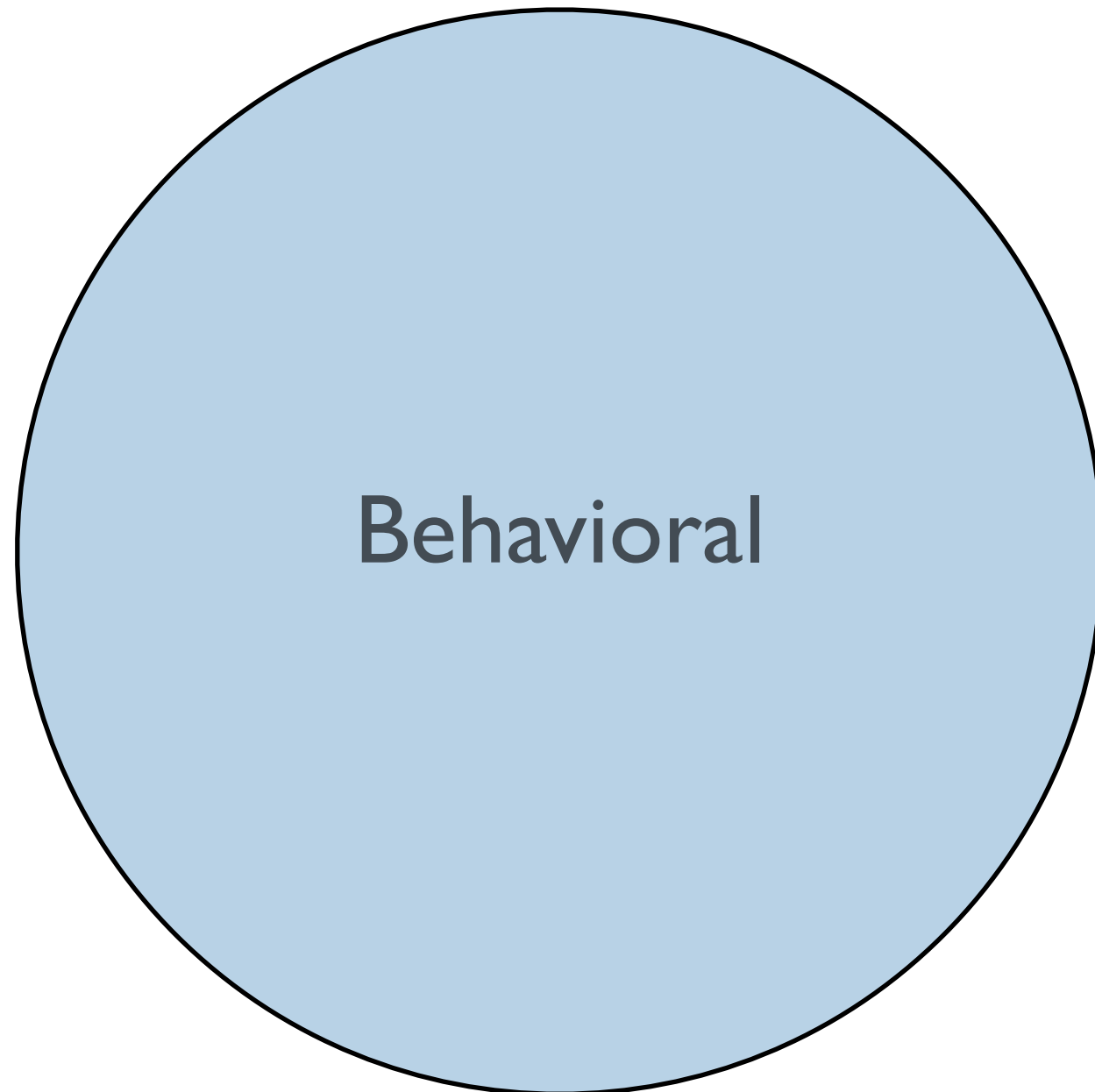
- Placing alcohol-gel dispensers next to the doors of patient rooms did not increase adherence. (Muto et al, 2000)
- A combination of bedside antiseptic hand-rub dispensers and posters to remind staff to clean their hands substantially increased compliance. (Pittet et al, 2000)
- Improved accessibility to sinks (more sinks) does not lead to an improvement in healthcare workers' hand washing compliance (Whitby, 2004)

Key Evidence

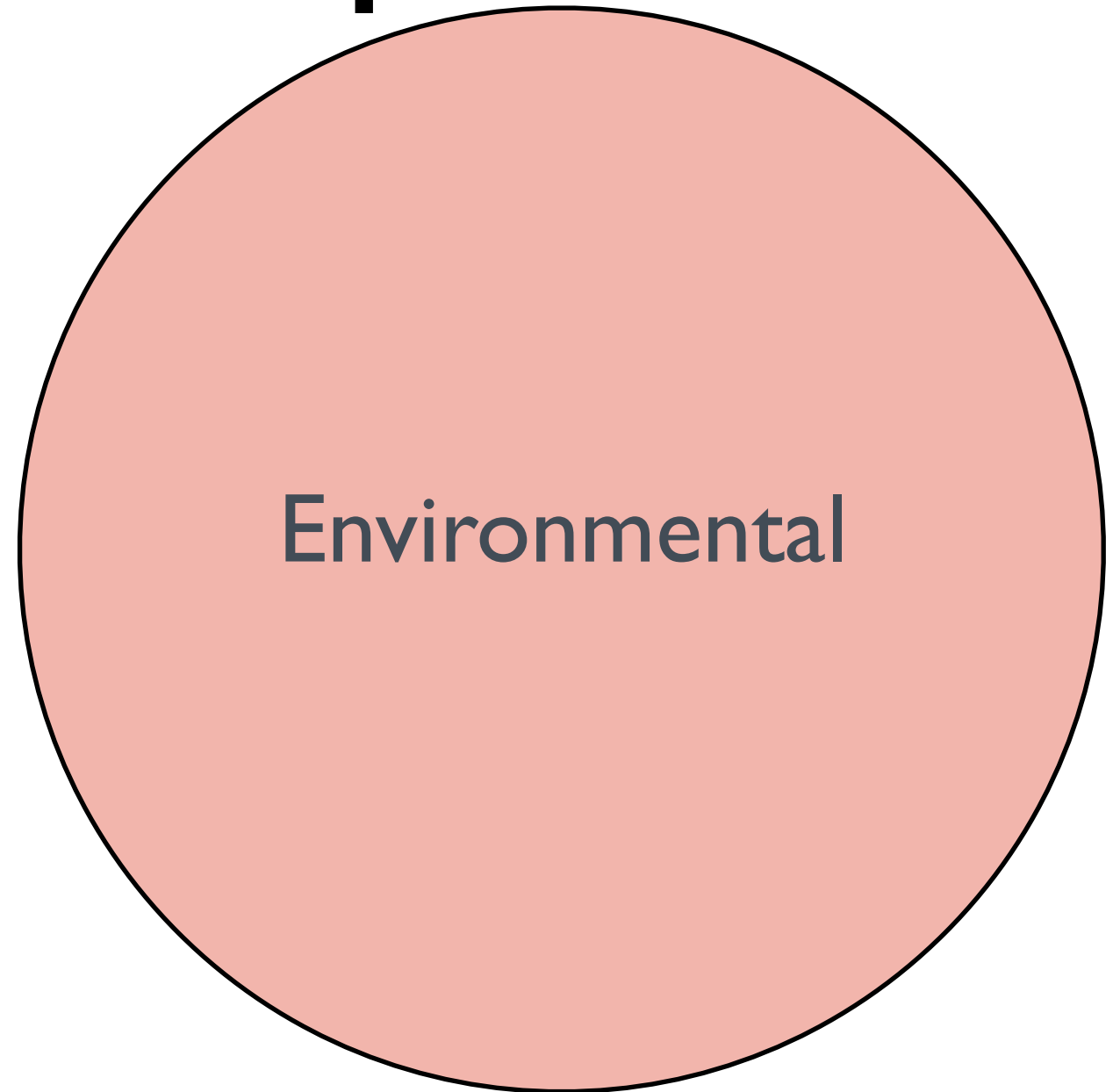
- Random voice hand hygiene messages delivered by medical, nursing, and infection control staff increased hand washing compliance. (McGuckin 2006)
- Skin condition of nurses improved with alcohol sanitizers over antiseptic hand washing. (Larson et al 2005)
- Alcohol-based cleaners more effective and environmentally friendly. (CDC)

Solution Space

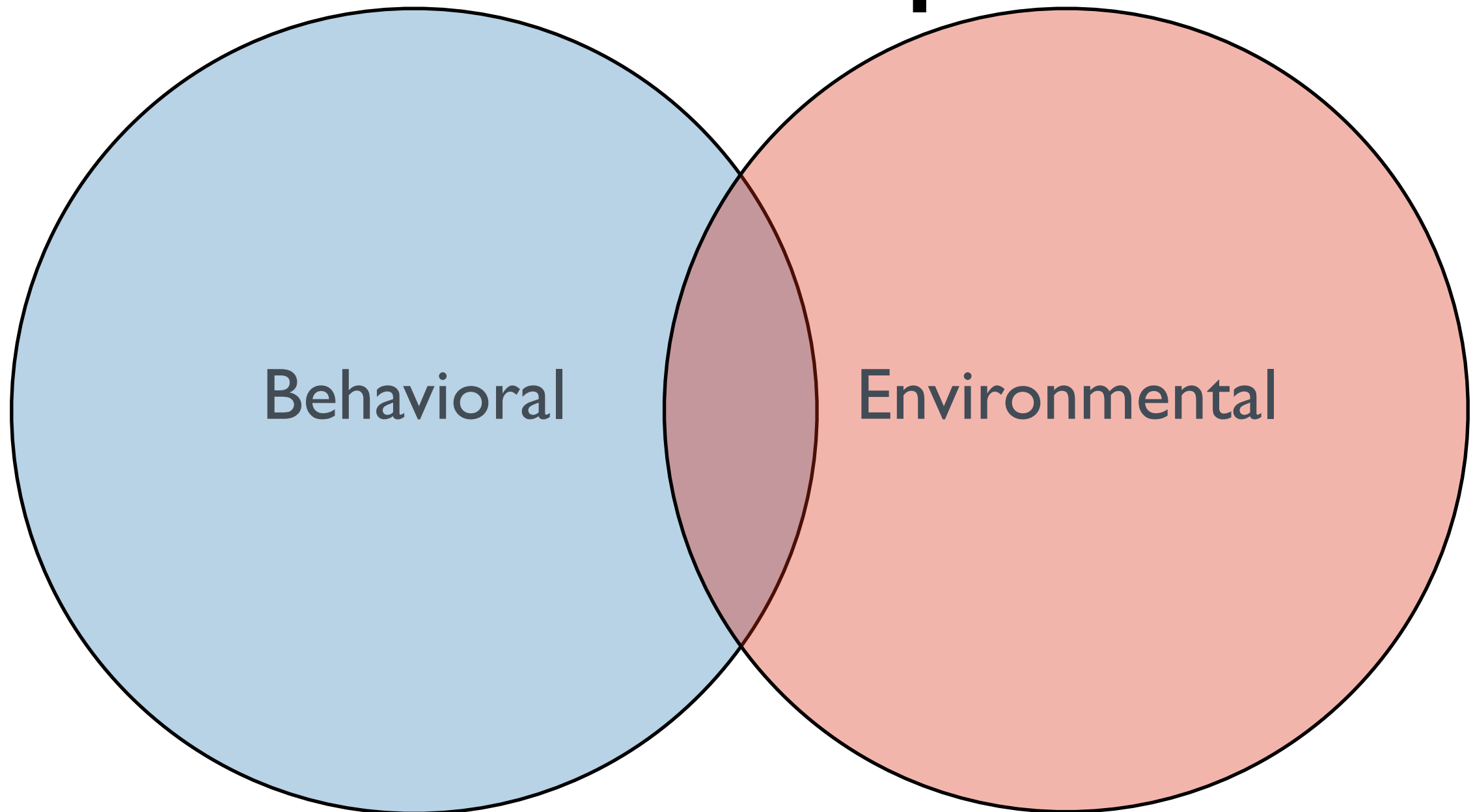
Solution Space



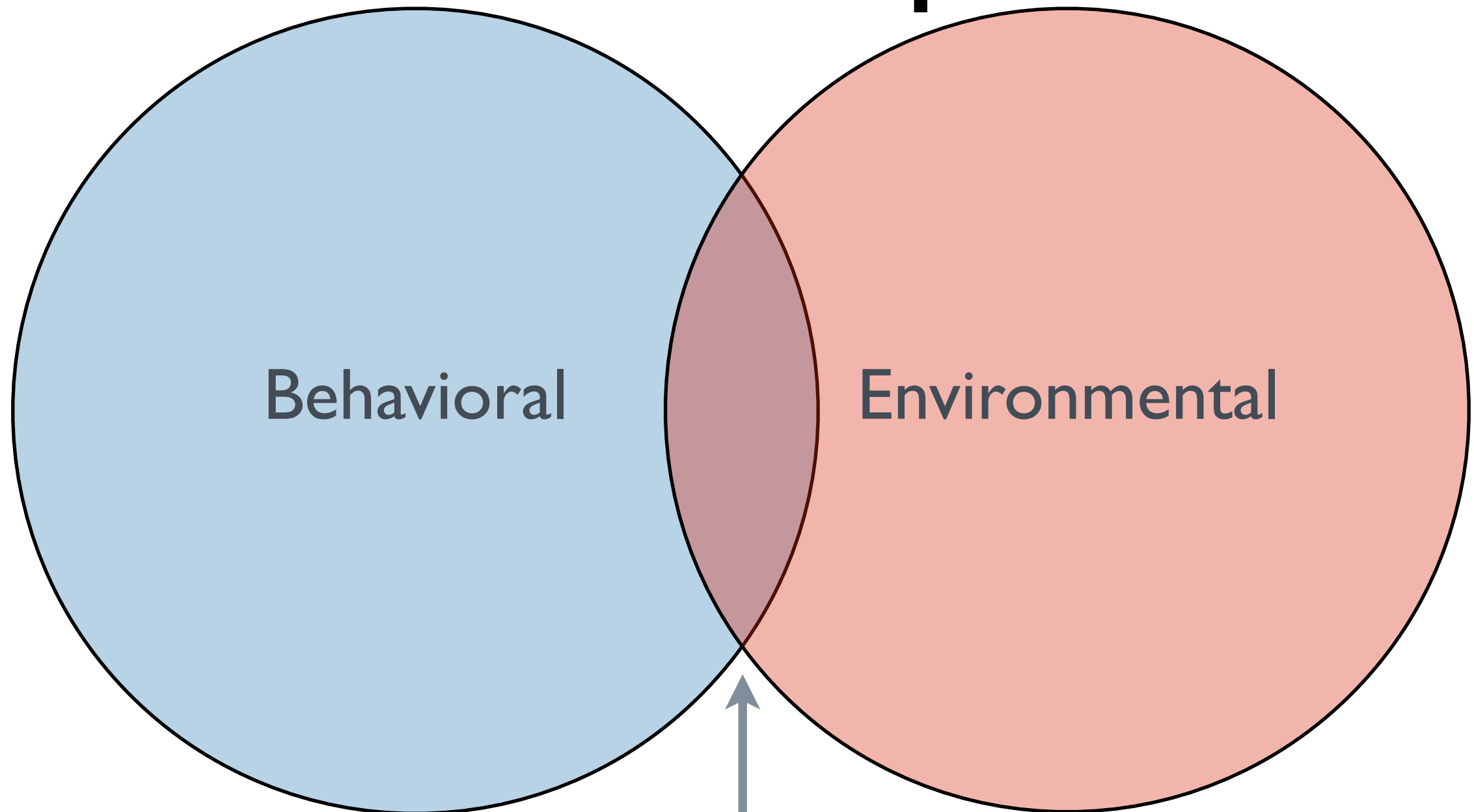
Solution Space



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Change the environment to modify behavior.

Behavioral Solution

- Incentives
- RFID monitoring and reminding
- Pocket cleaners

Environmental Solutions

- Mobile sinks
- UV light room disinfections
- Lighting cues for reminding
- Hand sanitizing built into bed

Ideal Solution

- Provide subtle reminders with multiple ways to clean hands
- RFID triggers lighting cues for bed sanitizer and room sink
- RFID triggers vibrating reminder on “clean pocket”
- Noncompliance noted if hands not sanitized before entering patient zone

